

# iNOVA4Health

-Advancing Precision Medicine-



## Investigação Translacional em Medicina

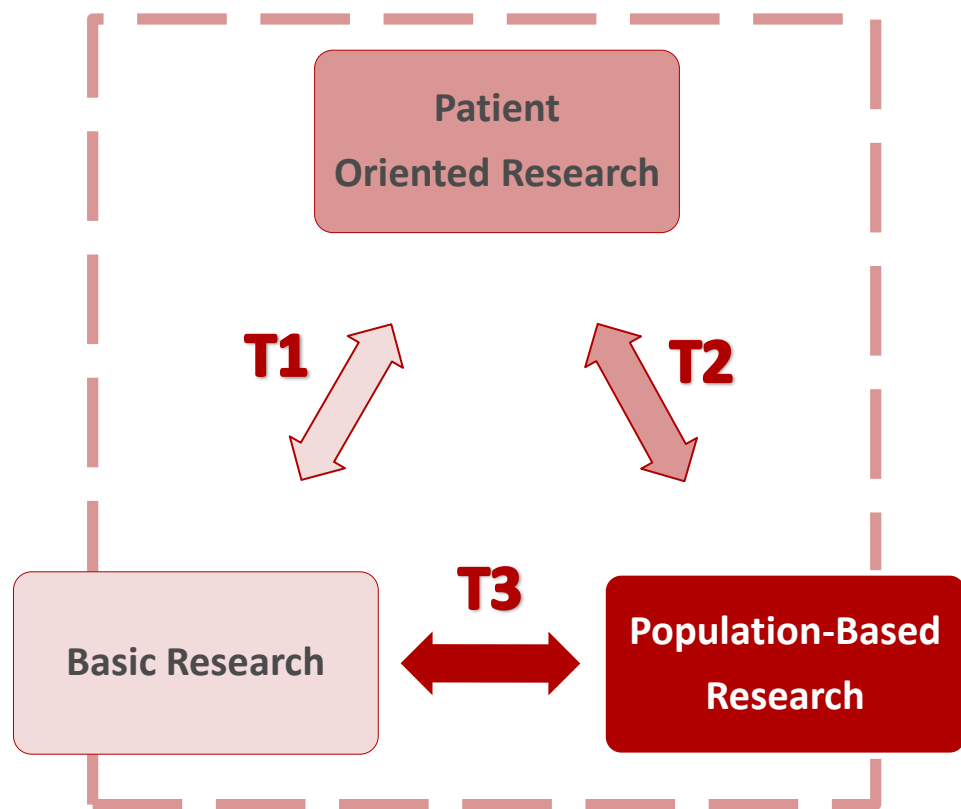
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Prof. Chem & Biochem Eng., FCT/UNL

Vice President, iBET

Coordinator, iNOVA4Health

# Translational Research Medicine



**T1** Leads to new or improved scientific understanding or standards of care;

**T2** Leads to better patient outcomes, the implementation of best practices and improved health status in communities;

**T3** Stimulates a robust scientific understanding of human health and disease.

Rubio, D.M., Schoenbaum, E.E. et al (2010) – “Defining Translational Research: Implications for Training” Acad. Med., 85(3), 470-475

# Translational Research Medicine

## Two major Translational Roadblocks/Bottlenecks:

- Prevents basic research findings from being tested in a clinical setting;
- Prevents proven interventions from becoming standard practice

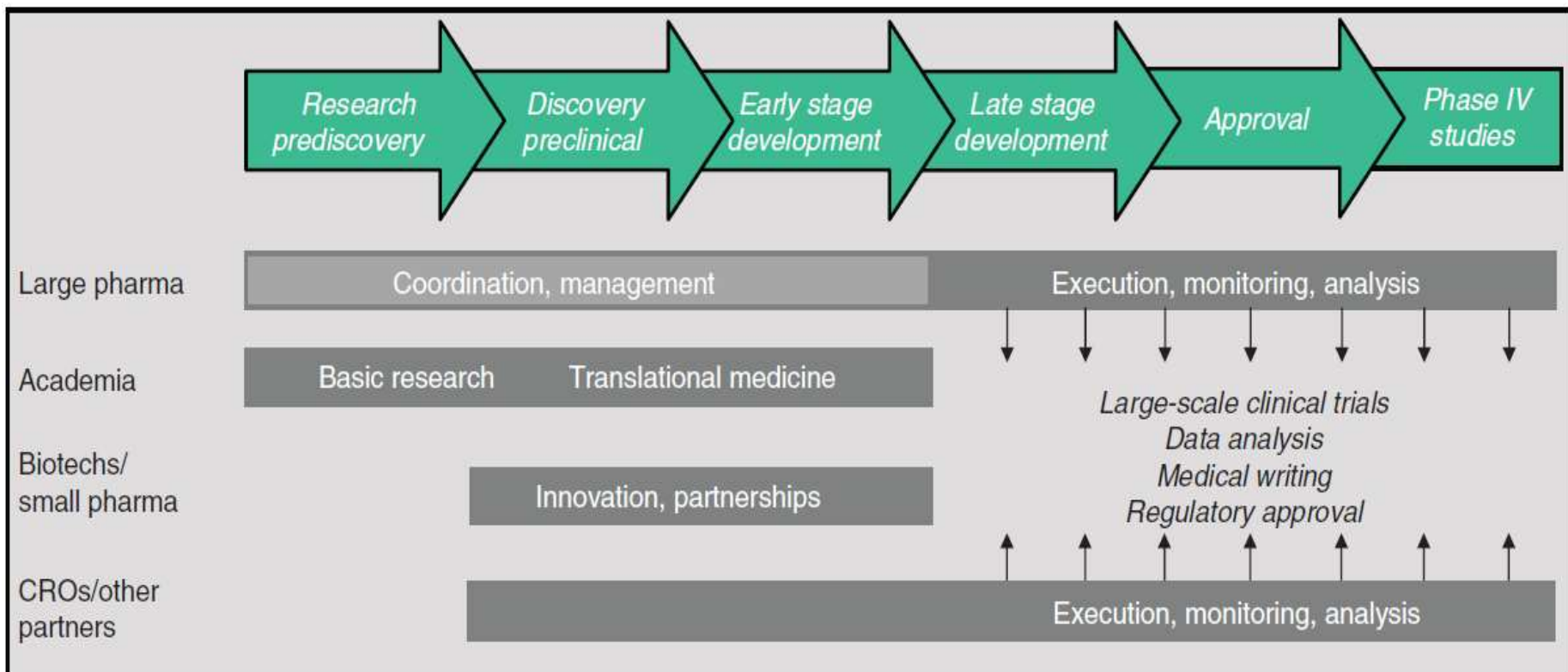
(Inst. Medic. Clinical Research roundtable)

## NIH NCATS bridging the gap by:

- Developing: new approaches, technologies, resources and models;
- Demonstrating their usefulness;
- Disseminating the resulting data, analysis and methodologies to the broad scientific community

# BioPharma reorganization – Open-Source Model

## Lilly's FIPNet Model



## Coping with the complexity and re-invigorating R&D

Kaitin, Clin Pharmacol Ther, 87:3, 356, 2010; Munos, Nature Rev Drug Discovery, 2010

# Main Partners: Biopharmaceutical

## Discovery

### Mab's

Bayer HealthCare, Köln & Wuppertal  
Novartis Pharma, Basel

### Proteomics

Bayer HealthCare, Berlin  
Merck Healthcare, Darmstadt & Boston

### Pre-Clinical Models & Stem Cells

Abbvie, Chicago  
Apceth, München  
AstraZeneca, Göteborg  
Cellartis, Takara Göteborg  
Centocor, J&J, NJ  
CEVEC, Köln  
Merck Healthcare, Darmstadt  
PBS, LA, California  
Tecnimed, Portugal

## Preclinical

### Biologicals & ATMP's

Apceth, München  
Alloksys, Nunnik, NL  
Bayer HealthCare, Wuppertal  
Genethon, Paris  
Merck Healthcare, Darmstadt  
Novo Nordisk, Copenhagen  
Redbiotech, Zurich  
Sanofi Pasteur, Lyon

### Development & Engineering

BioReliance, Edinburgh  
GlycoFi, New Hampshire  
Leti, Madrid  
Lonza, Slough & Visp  
Merck Millipore, Boston & Darmstadt  
Merck & Co., West Point, PA  
GlaxoSmithKline, Sienna  
PALL Life Sciences, Northborough, MA  
Sartorius-Stedim, Göttingen

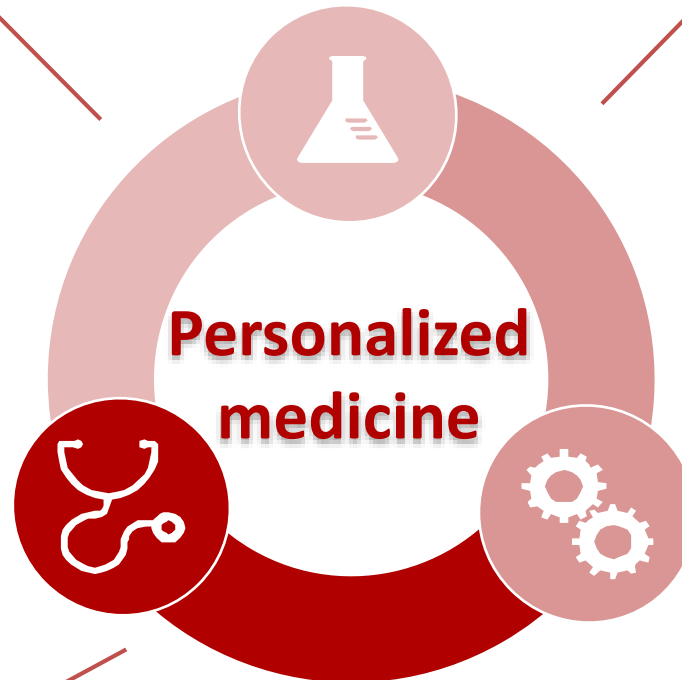
# Basic Science, Technological Development and Precision Medicine Driving HealthCare

## Challenges




*Metabolism & Inflammation*  
*Rare Chronic Diseases*  
*Mental Disorders*  
*Cancer*

## Solutions

*Healthy Ageing*  
*Novel Therapies*  
*Biopharmaceuticals*



## Competences

-  *Basic Research*
-  *Translational Research*
-  *Clinical Research*

# For more information visit: [www.inova4health.com](http://www.inova4health.com)

Project name	PIs
<b>Novel noninvasive markers of non-alcoholic fatty liver disease progression and newly therapeutic approaches</b>	Paula Macedo (CEDOC); Ana Matias (iBET)
<b>OrangeCTherapy: Chemotherapeutic effect of Citrus bioactive compounds - evaluation for targeting human colorectal cancer stem cells</b>	Teresa Serra (iBET); Paula Chaves (IPOLFG)
<b>Generation of genetically-modified hiPSC cell lines for the development of a new transcriptional program sensor system for diagnoses and therapeutics</b>	Alisson Gontijo (CEDOC); José Ramalho (CEDOC); Patrícia Gomes-Alves (iBET)
<b>Ovarian cancer a suitable model to define metabolic profile as a tool to predict chemoresistance</b>	Jacinta Serpa (IPOLFG/ CEDOC); Vítor Espírito Santo (iBET); Ana Félix (IPOLFG/ CEDOC)
<b>CardioRegen: Integrative studies in cardiogenesis: from the embryo to scalable multipronged generation of hESC-derived myocardial cells for heart tissue repair</b>	José Belo (CEDOC); Paula Alves (iBET/ ITQB NOVA)
<b>Molecular mechanisms of cell migration and invasion: developing a new strategy to impair tumor progression</b>	Duarte Barral (CEDOC); Cristina Casalou (CEDOC); Jacinta Serpa (IPOLFG/CEDOC); Ana Félix (IPOLFG/CEDOC, RG17)
<b>Biomarkers for Autosomal Dominant Polycystic Kidney Disease (ADPKD biomarkers)</b>	Mónica Rosa (CEDOC); Susana Lopes (CEDOC); Fernando Nolasco (CEDOC)
<b>The role of cholesteryl hemiesters in the etiology, development and instability of atheromata</b>	Otília Vieira (CEDOC); José Alves (CEDOC); Winchil Vaz (CEDOC); Miguel Viana Baptista (CEDOC)

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<b>Project name</b>	<b>PIs</b>
<b>Development of a non-invasive method to measure blood glucose through the skin without need of calibration</b>	Abel Oliva (ITQB NOVA); Paula Macedo (CEDOC)
<b>The importance of haptoglobin/hemopexin axis in the pathogenesis of Axial Spondyloarthritis</b>	Raffaella Gozzelino (CEDOC); Fernando Pimentel-Santos (CEDOC); Jaime Branco (CEDOC)
<b>T2C – Development of a novel delivery system (DS) to Target metastatic colorectal Cancer (mCRC)</b>	Cristina Albuquerque (IPOLFG); Catarina Duarte (iBET/ ITQB NOVA)
<b>Characterization of anti-HDL (aHDL) antibodies: identification of their biologic activity and clinical relevance</b>	José Alves (CEDOC); Maria Arménia Carrondo (ITQB NOVA)
<b>Remote ischemic per-conditioning in acute stroke – clinical trial for improving outcome and disclosing novel circulating biomarkers</b>	Helena Vieira (CEDOC); Miguel Viana Baptista (CEDOC)
<b>SynDia: Synucleins – the link between Parkinson and Diabetic Retinopathy?</b>	Sandra Tenreiro (CEDOC); Gabriela Silva (CEDOC); Cláudia Santos (iBET/ ITQB NOVA)
<b>Rewired T Cells: New therapeutic opportunities for Rheumatoid Arthritis</b>	Helena Soares (CEDOC); Jaime Branco (CEDOC)
<b>Development of Novel Cancer Therapeutics for Breast Cancer targeting Notch1 ligands Delta-like-1 and Jagged2</b>	Ana Barbas (iBET); Sofia Braga (CEDOC)



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Project name	PIs
<b>Molecular profiling and novel targeted therapies in thyroid and colorectal cancers</b>	Branca Cavaco (IPOLFG); Teresa Serra (iBET)
<b>Depicting Barrett's esophagus biopathogenesis and its malignant progression in three-dimensional in vitro models</b>	Paula Chaves (IPOLFG); Manuel Carrondo (iBET)
<b>Colorectal Carcinogenesis Pathways - Establishing a link between carcinogenesis &amp; therapeutic response</b>	Isadora Rosa (IPOLFG); Catarina Brito (iBET/ ITQB NOVA)
<b>(per)Sulfidomics: benchmarking mechanisms underlying drug toxicity and drug resistance in precision medicine</b>	João Vicente (ITQB NOVA); Jacinta Serpa (IPOLFG/ CEDOC); Sofia Pereira (CEDOC)
<b>MioSpA: the role of the muscle in Spondyloarthritis, a new paradigm</b>	Fernando Pimentel-Santos (CEDOC); Júlia Costa (ITQB NOVA)
<b>Searching for positive markers in triple negative breast cancer</b>	Sofia Braga (CEDOC); António Jacinto (CEDOC); Sofia Rebelo (iBET)
<b>The effect of dual HER2 blockade on anti-tumor immune cells</b>	Inês Pires Silva (IPOLFG); Catarina Brito (iBET/ ITQB NOVA)

# iNOVA4Health

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## Thank you

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